

WHAT IS CLAIMED IS:

1. In a wireless environment, a method for efficiently transmitting digital images from a wireless device, the method comprising:

5 establishing a data call from the wireless device to a wireless carrier for uploading digital images;

transmitting information pertaining to a digital image to be uploaded from the wireless device to the wireless carrier, said digital image being arranged into individual compartments capable of separate transmission;

10 collecting, at a spooler, the information being transmitted for said digital image; and

15 once the spooler has collected sufficient information to define at least one individual compartment of said digital image, transmitting said at least one compartment from the spooler to a target computer.

20 2. The method of claim 1, wherein said step of establishing a data call from the wireless device to a wireless carrier for uploading digital images includes:

25 connecting a digital camera with wireless connectivity to a cellular phone device; and

placing a data call through the cellular phone device.

3. The method of claim 1, wherein said step of transmitting information includes:

transmitting an individual compartment of the digital image.

25 4. The method of claim 1, wherein said step of transmitting said at least one compartment from the spooler to a target computer includes:

transmitting said at least one compartment to a server infrastructure that includes at least one Web server.

5 5. The method of claim 1, further comprising:
dropping the data call; and
upon re-establishing another data call, resuming transmission of said digital
image without retransmitting the entire digital image.

10 6. The method of claim 5, wherein the wireless device resumes transmission
of said digital image at a point of the last successfully-received byte of data.

15 7. The method of claim 5, wherein said step of dropping the data call occurs
as a result of interference with the data call.

20 8. The method of claim 1, wherein information is transmitted using TCP/IP
protocol.

25 9. The method of claim 1, wherein said step of establishing a data call from
the wireless device to a wireless carrier includes:

 establishing a data call to a modem pool present at the wireless carrier,
wherein said spooler is located in proximity to said modem pool.

30 10. The method of claim 9, wherein said spooler is connected to said modem
pool via a high-speed data network.

35 11. The method of claim 1, wherein said spooler is connected to said target
computer via a high-speed data network.

40 12. The method of claim 1, further comprising:
determining at the spooler which digital images are required to be uploaded,
based, at least in part, on digital images already successfully uploaded.

13. The method of claim 1, further comprising:
receiving concurrent data calls from a plurality of client devices, such that a
multitude of connections exist with a multitude of digital images being simultaneously
transmitted.

5

14. The method of claim 1, further comprising:
logging information characterizing each data call, thereby providing
information supporting per-image or time-based billing.

10
15
16
17
18
19
20
25

15. The method of claim 14, wherein said step of logging information
includes:

logging information describing how many images have been transmitted from
the wireless device.

16. The method of claim 14, wherein said step of logging information
includes:

logging information describing the duration of the data call.

17. The method of claim 1, wherein each digital image is identified by a
globally-unique identifier.

18. The method of claim 17, wherein the globally-unique identifier of each
digital image is based, at least in part, on a device ID of the wireless device where the image
originated.

19. The method of claim 1, wherein image information is transmitted from
the spooler to the target computer using XML protocol.

20. The method of claim 1, further comprising:

determining at the spooler which digital images are required to be uploaded, based, at least in part, by querying the target computer for a list of digital images already successfully uploaded.

5 21. The method of claim 1, further comprising:

determining at the spooler which digital images are required to be uploaded, based, at least in part, by querying the wireless device for a list of digital images that are desired to be uploaded.

10 22. The method of claim 1, wherein the spooler is deployed at a location remote from the wireless carrier.

15 23. The method of claim 1, wherein the spooler is deployed at a location proximate to the target computer.

20 24. The method of claim 1, wherein said information pertaining to the said digital image includes meta data.

25 25. The method of claim 24, wherein said meta data includes one or more e-mail addresses relevant to said digital image.

26. A system for efficiently transmitting digital images from a wireless device comprising:

25 a wireless device capable of establishing a data call to a wireless carrier for uploading digital images;

 a module directing transmission of information pertaining to a digital image to be uploaded from the wireless device to the wireless carrier, said digital image being arranged into individual compartments capable of separate transmission; and

a spooler for collecting the information being transmitted for said digital image, wherein once the spooler has collected sufficient information to define at least one individual compartment of said digital image, said spooler transmits said at least one compartment from the spooler to a target computer.

5

27. The system of claim 26, wherein said wireless device includes a digital camera with wireless connectivity to a cellular phone device.

10

28. The system of claim 26, wherein transmission occurs by transmitting individual compartments of the digital image.

15

29. The system of claim 26, wherein said target computer includes a server infrastructure that includes at least one Web server.

20

30. The system of claim 26, wherein, upon abnormal termination of the data call, the system resumes transmission of said digital image at a later point in time without restarting retransmission of the entire digital image.

25

31. The system of claim 30, wherein transmission of said digital image resumes at a point of the last successfully-received byte of data.

32. The system of claim 30, wherein said abnormal termination occurs as a result of interference with the data call.

25

33. The system of claim 26, wherein information is transmitted using TCP/IP protocol.

34. The system of claim 26, wherein said wireless carrier includes modem pool, and wherein said spooler is located in proximity to said modem pool.

35. The system of claim 34, wherein said spooler is connected to said modem pool via a high-speed data network.

5 36. The system of claim 26, wherein said spooler is connected to said target computer via a high-speed data network.

37. The system of claim 26, further comprising:
a module for determining which digital images are required to be uploaded,
based, at least in part, on digital images already successfully uploaded.

10 38. The system of claim 26, wherein said spooler services multiple concurrent data calls from a plurality of client devices, such that a multitude of connections exist with a multitude of digital images being simultaneously transmitted.

15 39. The system of claim 26, further comprising:
a logger module for logging information characterizing each data call, thereby providing information supporting per-image or time-based billing.

20 40. The system of claim 39, wherein said logger module logs information describing how many images have been transmitted from the wireless device.

25 41. The system of claim 39, wherein said logger module logs information describing the duration of the data call.

42. The system of claim 26, wherein each digital image is identified by a globally-unique identifier.

43. The system of claim 42, wherein the globally-unique identifier of each digital image is based, at least in part, on a device ID of the wireless device where the image originated.

5 44. The system of claim 26, wherein image information is transmitted from the spooler to the target computer using XML protocol.

10 45. The system of claim 26, further comprising:
a module for determining at the spooler which digital images are required to be uploaded, based, at least in part, by querying the target computer for a list of digital images already successfully uploaded.

15 46. The system of claim 26, further comprising:
a module for determining at the spooler which digital images are required to be uploaded, based, at least in part, by querying the wireless device for a list of digital images that are desired to be uploaded.

20 47. The system of claim 26, wherein the spooler is deployed at a location remote from the wireless carrier.

25 48. The system of claim 26, wherein the spooler is deployed at a location proximate to the target computer.

49. The system of claim 26, wherein said information pertaining to the said digital image includes meta data.

50. The method of claim 49, wherein said meta data includes one or more e-mail addresses relevant to said digital image.

51. In a wireless environment, a method for efficiently transmitting media content from a wireless device, the method comprising:

establishing a data call from the wireless device to a wireless carrier for uploading selected media content;

transmitting information pertaining to the selected media content to be uploaded from the wireless device to the wireless carrier, said selected media content being arranged into individual compartments capable of separate transmission;

collecting, at a spooler, the information being transmitted for said selected media content; and

once the spooler has collected sufficient information to define at least one individual compartment of said selected media content, transmitting said at least one compartment from the spooler to a target computer.

16
15 52. The method of claim 51, wherein said selected media content includes digital images.

53. The method of claim 51, wherein said selected media content includes digital audio.

20 54. The method of claim 51, wherein said selected media content includes digital video.

55. The method of claim 51, wherein said step of establishing a data call from the wireless device to a wireless carrier for uploading selected media content includes:

25 connecting a digital media capturing device with wireless connectivity to a cellular phone device; and

placing a data call through the cellular phone device.

56. The method of claim 51, further comprising:
dropping the data call; and
upon re-establishing another data call, resuming transmission of said selected media content without retransmitting portions of said selected media content that have already been transmitted.

5
160
57. The method of claim 56, wherein the wireless device resumes transmission of said selected media content at a point of the last successfully-received byte of data.

165
58. The method of claim 51, further comprising:
determining at the spooler which portions of said selected media content are required to be uploaded, based, at least in part, on those portions, if any, that have already been successfully uploaded.

170
59. The method of claim 51, further comprising:
receiving concurrent data calls from a plurality of client devices, such that a multitude of connections exist with a multitude of different media content being simultaneously transmitted.

20
60. The method of claim 51, wherein each object of said selected media content is identified by a globally-unique identifier.

25
61. The method of claim 60, wherein the globally-unique identifier of each object of said selected media content is based, at least in part, on a device ID of the wireless device where the image originated.

62. The method of claim 51, further comprising:

determining at the spooler which portions of said selected media content are required to be uploaded, based, at least in part, by querying the target computer for a list of all portions, if any, already successfully uploaded.

5 63. The method of claim 51, wherein said step of transmitting information includes:

transmitting an individual compartment of said selected media content.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
289
290
291
292
293
294
295
296
297
298
299
299
300
301
302
303
304
305
306
307
308
309
309
310
311
312
313
314
315
316
317
318
319
319
320
321
322
323
324
325
326
327
328
329
329
330
331
332
333
334
335
336
337
338
339
339
340
341
342
343
344
345
346
347
348
349
349
350
351
352
353
354
355
356
357
358
359
359
360
361
362
363
364
365
366
367
368
369
369
370
371
372
373
374
375
376
377
378
379
379
380
381
382
383
384
385
386
387
388
389
389
390
391
392
393
394
395
396
397
398
399
399
400
401
402
403
404
405
406
407
408
409
409
410
411
412
413
414
415
416
417
418
419
419
420
421
422
423
424
425
426
427
428
429
429
430
431
432
433
434
435
436
437
438
439
439
440
441
442
443
444
445
446
447
448
449
449
450
451
452
453
454
455
456
457
458
459
459
460
461
462
463
464
465
466
467
468
469
469
470
471
472
473
474
475
476
477
478
479
479
480
481
482
483
484
485
486
487
488
489
489
490
491
492
493
494
495
496
497
498
499
499
500
501
502
503
504
505
506
507
508
509
509
510
511
512
513
514
515
516
517
518
519
519
520
521
522
523
524
525
526
527
528
529
529
530
531
532
533
534
535
536
537
538
539
539
540
541
542
543
544
545
546
547
548
549
549
550
551
552
553
554
555
556
557
558
559
559
560
561
562
563
564
565
566
567
568
569
569
570
571
572
573
574
575
576
577
578
579
579
580
581
582
583
584
585
586
587
588
589
589
590
591
592
593
594
595
596
597
598
599
599
600
601
602
603
604
605
606
607
608
609
609
610
611
612
613
614
615
616
617
618
619
619
620
621
622
623
624
625
626
627
628
629
629
630
631
632
633
634
635
636
637
638
639
639
640
641
642
643
644
645
646
647
648
649
649
650
651
652
653
654
655
656
657
658
659
659
660
661
662
663
664
665
666
667
668
669
669
670
671
672
673
674
675
676
677
678
679
679
680
681
682
683
684
685
686
687
688
689
689
690
691
692
693
694
695
696
697
698
698
699
699
700
701
702
703
704
705
706
707
708
709
709
710
711
712
713
714
715
716
717
718
719
719
720
721
722
723
724
725
726
727
728
729
729
730
731
732
733
734
735
736
737
738
739
739
740
741
742
743
744
745
746
747
748
749
749
750
751
752
753
754
755
756
757
758
759
759
760
761
762
763
764
765
766
767
768
769
769
770
771
772
773
774
775
776
777
778
779
779
780
781
782
783
784
785
786
787
788
789
789
790
791
792
793
794
795
796
797
798
798
799
799
800
801
802
803
804
805
806
807
808
809
809
810
811
812
813
814
815
816
817
818
819
819
820
821
822
823
824
825
826
827
828
829
829
830
831
832
833
834
835
836
837
838
839
839
840
841
842
843
844
845
846
847
848
849
849
850
851
852
853
854
855
856
857
858
859
859
860
861
862
863
864
865
866
867
868
869
869
870
871
872
873
874
875
876
877
878
879
879
880
881
882
883
884
885
886
887
888
889
889
890
891
892
893
894
895
896
897
898
898
899
899
900
901
902
903
904
905
906
907
908
909
909
910
911
912
913
914
915
916
917
918
919
919
920
921
922
923
924
925
926
927
928
929
929
930
931
932
933
934
935
936
937
938
939
939
940
941
942
943
944
945
946
947
948
949
949
950
951
952
953
954
955
956
957
958
959
959
960
961
962
963
964
965
966
967
968
969
969
970
971
972
973
974
975
976
977
978
979
979
980
981
982
983
984
985
986
987
988
989
989
990
991
992
993
994
995
996
997
998
998
999
999
1000